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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/836,192	04/18/2001	Tsung-Chih Chen	BHT-3106-136	6518

7590 12/07/2001

DOUGHERTY & TROXELL  
SUITE 1404  
5205 LEESBURG PIKE  
FALLS CHURCH, VA 22041

EXAMINER

JIANG, CHEN WEN

ART UNIT	PAPER NUMBER
3744	2

DATE MAILED: 12/07/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/836,192	CHEN
	Examiner Chen-Wen Jiang	Art Unit 3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 18 April 2001.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Attey et al. (U.S. Patent Number 5,544,487) in view of Yokotani et al. (U.S. Patent Number 5,168,339).

Attey et al. disclose a thermoelectric heat pump with hot and cold liquid heat exchange circuits. A thermoelectric system 10 comprises a thermoelectric module 12 having first and second opposed faces. When an electric current is applied to the module, heat is pumped from one side to the other side. A respective manifold 14 defining a volume is attached to each face of the thermoelectric module 12. The peripheral wall 24 contains a number of bolt holes 27. The

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bolt holes 27 allow very small gauge bolts and nuts to hold one manifold to the other manifold 14 on the other side of the thermoelectric module 12. The peripheral walls 24 of the manifolds 14 may be sealed to the outer perimeter of the module 12 faces to prevent fluid leakage using known technique such as gasket, O-rings or silica/rubber cement. Extending from each inlet 16 there is a respective conduit 40 and extending from each outlet 18 there is a respective conduit 42. One or other of the conduits 40,42 has mounted thereto a pump 44. The thermoelectric module 12 may be mounted at a mid-point in a refrigerator wall with the cooling side manifold 14, pump 44, conduits 40,42 and heat exchanger 46 inside of this point and the heating side manifold 14, pump 44, conduits 40,42 and heat exchanger 46 outside of this point. However, Attey et al. do not disclose the detail construction of the thermoelectric module 12. Yokotani et al. teach SbBi crystal and insulation resin used in the thermoelectric module in the same field of endeavor for the purpose of constructing the thermoelectric module. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Attey et al. with a thermoelectric module having SbBi crystal and insulation resin in view of Yokotani et al. so as to construct the thermoelectric heat pump device.

### *Conclusion*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Phillips et al. (U.S. Patent Number 3,236,056), Koslow et al. (U.S. Patent Number 4,829,771), Wright et al. (U.S. Patent Number 5,584,183), Watanabe et al. (U.S. Patent Number 5,931,001), Polkinghorne (U.S. Patent Number 5,809,785) and Gilley et al. (U.S. Patent Number

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6,003,319) are made of record as thermoelectric heat exchanger and can be used to reject the claim 1.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chen-Wen Jiang whose telephone number is (703) 308-0275. The examiner can normally be reached on Monday-Thursday from 6:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on (703) 308-2597. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-5648.

Chen-Wen Jiang  
December 4, 2001

A handwritten signature in black ink, appearing to read "Chen-Wen Jiang".